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is the active ingredient), with the result that nearly 350 of the rodents were shown to have suffered from plague. Many of the rats picked up were in an advanced state of decomposition and definite results in the circumstances could not be expected from the bacteriological investigation; but it is believed that a number of these also had died from plague. So far as is known there has at no time been any extension of the plague infection from the ship rats to those on shore nor to the resident population of Hamburg—a result which speaks well for the careful and efficient way in which the anti-rat regulations are carried out by the port officials.

Hamburg's greatest source of danger, as indicated above, is from the ports in the River Plate, but from these, it is worthy of mention, no reliable information is made public as to the local incidence of plague in man or in the rat. Evidence from private sources, however, convinces us that outbreaks of human plague have been fairly frequent in these ports of late years, as well as epizootics in rats. The policy of concealment, which is unfortunately so general in South America, is apparently adopted in the River Plate ports with a view to protect local trade interests, no consideration being shown to those of the European ports with which they carry on their commerce. In the circumstances German and English ports, for their own protection from plague, have to rely largely upon the excellence of their own regulations and upon the efficiency and alertness of their own sanitary staffs.

THE PREVALENCE AND GEOGRAPHIC DISTRIBUTION OF PELLAGRA IN THE UNITED STATES.

By C. H. LAVINDER, Surgeon, United States Public Health Service.

Ever since the recognition of pellagra as a disease endemic and prevalent in the United States various attempts have been made to determine with some degree of exactitude its prevalence and geographic distribution, but up to the present time this very important information is still wanting, and we have been compelled to depend upon estimates which have not always been based upon any very accurate data. Under the direction of the Surgeon General of the Public Health Service I began some time ago a systematic attempt to collect statistical information relative to this disease in the United States. This work has proceeded slowly and suffered many interruptions, and my record is as yet by no means complete. I believe, however, that with the data I now have and the information compiled by others we are in a position when for the first time we may say with some degree of assurance approximately how much pellagra we have had in the United States and where it is prevailing. My report, as stated, is incomplete and must be taken as preliminary to a fuller report, which it is my hope may be made at no very distant date, when the work of collecting data is completed and the results compiled.

The pellagrous area of the United States lies, to a large extent, outside of the "registration area" for deaths as defined by the Census Bureau, and the statistics on this disease furnished by the Census Bureau are really almost a negligible quantity. In compiling data, therefore, we are compelled to depend upon reports made by individuals, and upon personal appeals, by card or letter, to State health officials, superintendents of asylums for the insane, heads of public institutions, and individual practitioners. It is needless to say that this method is faulty, and the resulting information by no means as accurate or complete as one would wish. The appeal to State health officials is of little value, since the disease is reportable in but very few States, and in only one of them by law. There are very few statistical reports in existence, and such as do exist have also been compiled with these same faulty methods. Personal appeals by card or letter to individual practitioners and to public institu-

tions generally, receive scant attention on the part of many; and in my experience, as I will show later, we have received replies to about one-fourth of the cards and letters sent out. The collection of statistical data on any very large scale is always necessarily open to many sources of error, however, and in the present case, notwithstanding faulty methods, I believe the returns give us a fairly accurate idea of the extent and prevalence of pellagra in the United States.

I have collected information from eight of the principal States of the pellagrous area by means of a franked return postal card, sent to each individual practitioner in these States. The report side of the return card is shown by the following:

REPORT SIDE OF RETURN CARD SENT TO PHYSICIANS.

PELLAGRA.

How many cases of pellagra occurred in your practice during 1907? _____ 1908? _____ 1909? _____ 1910? _____ 1911? _____ Total cases, _____; total deaths, _____. How many in white males? _____ White females? _____ Colored males? _____ Colored females? _____ How many under 5 years of age? _____; 5 to 20? _____; 20 to 40? _____ Above 40? _____ How many were city people? _____ Country people? _____ Well to do? _____ Moderate circumstances? _____ Poor? _____ How many times have you observed in one family or one house more than one case? _____ More than two cases? _____.

Remarks: _____.
Date, _____.

(Signature) _____,
(Address) _____.

Especial attention is directed to the fact that in this reply card note is taken only of the calendar years 1907 to 1911, both inclusive. These years are taken for the reasons that pellagra was first recognized as prevailing in the United States in the latter part of 1906 and early part of 1907, and my inquiry was begun comparatively early in 1912. The information derived from the cards sent to individual practitioners in the eight States mentioned above is shown partially in Table I. The details of the inquiry will be shown in subsequent tables and charts. For all other States I have been compelled to rely upon personal correspondence, reports of various kinds, and miscellaneous information derived in many ways. Some of the information which has been collected has as yet not been compiled, but such as has been is given in detail in the subsequent tables and charts.

TABLE No. 1.—*Pellagra, 1907 to 1911, inclusive.*

States.	Reports.		Race and sex of reported cases.						Total cases.	Deaths.	Death rate per 100 re- ported cases.			
	Cards mailed	Replies	White.		Colored.		Race and sex not re- ported.							
			Male.	Female.	Male.	Female.								
Virginia.....	2,359	823	174	302	49	103	628	349	55.59			
North Carolina.....	1,849	521	543	1,201	130	277	261	2,412	1,067	44.37				
South Carolina.....	1,275	287	357	772	120	351	280	1,880	582	30.95				
Georgia.....	3,022	735	985	2,142	166	575	690	4,558	1,582	34.70				
Kentucky.....	3,601	723	159	283	15	24	32	513	220	42.88				
Alabama.....	2,418	561	150	988	133	680	363	2,314	859	37.12				
Mississippi.....	2,009	561	433	954	249	907	352	2,895	1,250	43.17				
Louisiana.....	1,930	446	123	215	69	200	63	670	296	44.17				
Total.....	18,463	4,657	2,924	6,857	931	3,117	2,041	15,870	6,205	1 39.1				

¹ Aggregate fatality rate per 100 reported cases.

The figures in Table No. 1 do not include reports from the insane asylums in these States. I have excluded these for the reason that I found it impossible to determine with any degree of exactitude what percentage of cases developed in the asylums and what percentage were sent in already pellagrous. Undoubtedly many cases of pellagra have developed in the insane asylums of these States, but since I could not determine what percentage of the total did so develop, to have included them would have meant duplicating perhaps the reports already received from individual practitioners, many of whose cases have ultimately found their way into the asylums.

It will be noted in this table that I have received replies to only about 25 per cent of the cards sent out. It is of course questionable just what this may mean, and at first I was inclined to think that perhaps no reply might simply mean that the physician had no cases to report. Later developments and further experience, however, have taught me that this is by no means true. I believe that the absence of replies to so many cards means a great many unreported cases, but just how many no one can say.

Attention is directed to the very high case fatality rate, and it may be pointed out that this rate is among nonasylum cases. If we should add to this the deaths in the insane asylums in these States I am satisfied that the average case fatality rate would be higher. The death rate among asylum cases is very heavy.

The details as to race and sex are shown graphically in the chart which follows, Chart No. 1, as are also certain other data. In this chart it is of especial interest to notice the ratio between the whites and negroes, both male and female. It has been thought by many that in the South negro females have been the worst sufferers from pellagra. But here in a total of nearly 14,000 cases, reported from States many of which have a large negro population, we find that the white females outnumber the negro females and the white males outnumber the negro males. This shows the folly of trying to make generalizations on a small number of cases, as has been done heretofore.

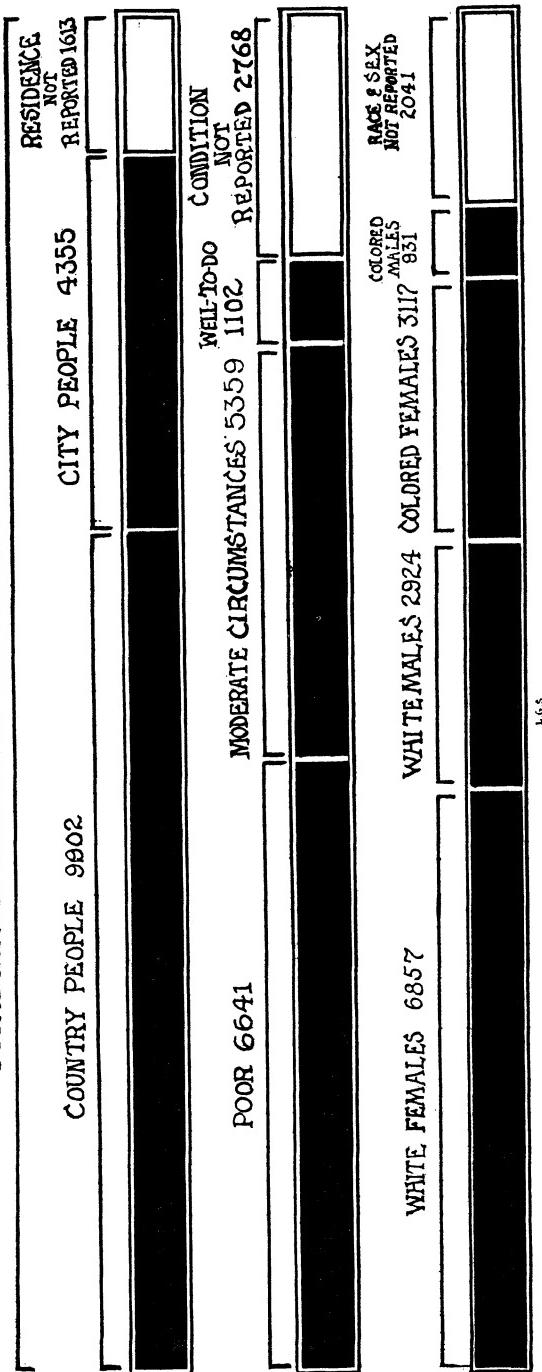
The rural cases, as seen in this chart, exceed the urban cases, though the latter occur in large numbers. This is totally at variance with Italian pellagra, which is not found in the cities at all. It may be said, however, that there is room for wide latitude in answering such questions as, "How many were city people?" or "How many were country people?" The conditions of life in small villages and towns are not infrequently rural rather than urban. And it is more than likely that many of the cases reported here as in the city, may have occurred in towns or villages of this character. From this same chart it is noted that the disease is reported more frequently among the poor and those in moderate circumstances, but does not spare the well-to-do. This is quite in keeping with the Italian disease of which Dalla Bona said: "It does not always spare the palace."

The information derived from the question as to whether there were more than one or two cases in a house or family is perhaps worthy of little notice since it gives little that is definite. However, from a tabulation of the answers it appears that more than one case was noted 933 times, and more than two cases 235 times, that is, in the total reported cases, nearly 16,000 in number. So far as it goes,

this is in entire accord with the Italian observations. There, as here, it is much more frequently observed that there is only one

CHART I

TOTAL NUMBER OF CASES OF PELLAGRA REPORTED 15870

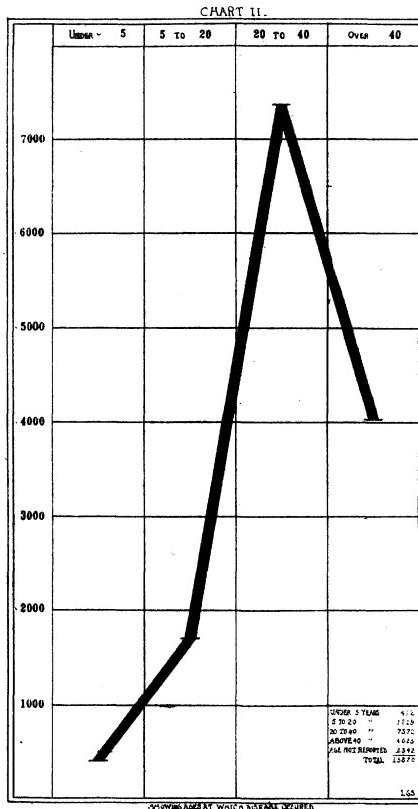


case in a house or family. This is perhaps a point of some consequence regarding the transmissibility of the disease.

FROM THE ANALYSIS OF THE TOTAL CASES REPORTED FROM EIGHT STATES - 1907 TO 1911 INCLUSIVE

L.G.S.

In Chart No. 2 is shown graphically the time of life when the disease occurred in all of the cases in which this information is given. This curve would have been of much more interest had the groups been in five-year periods or less, but the collection of so much detail was not found feasible.



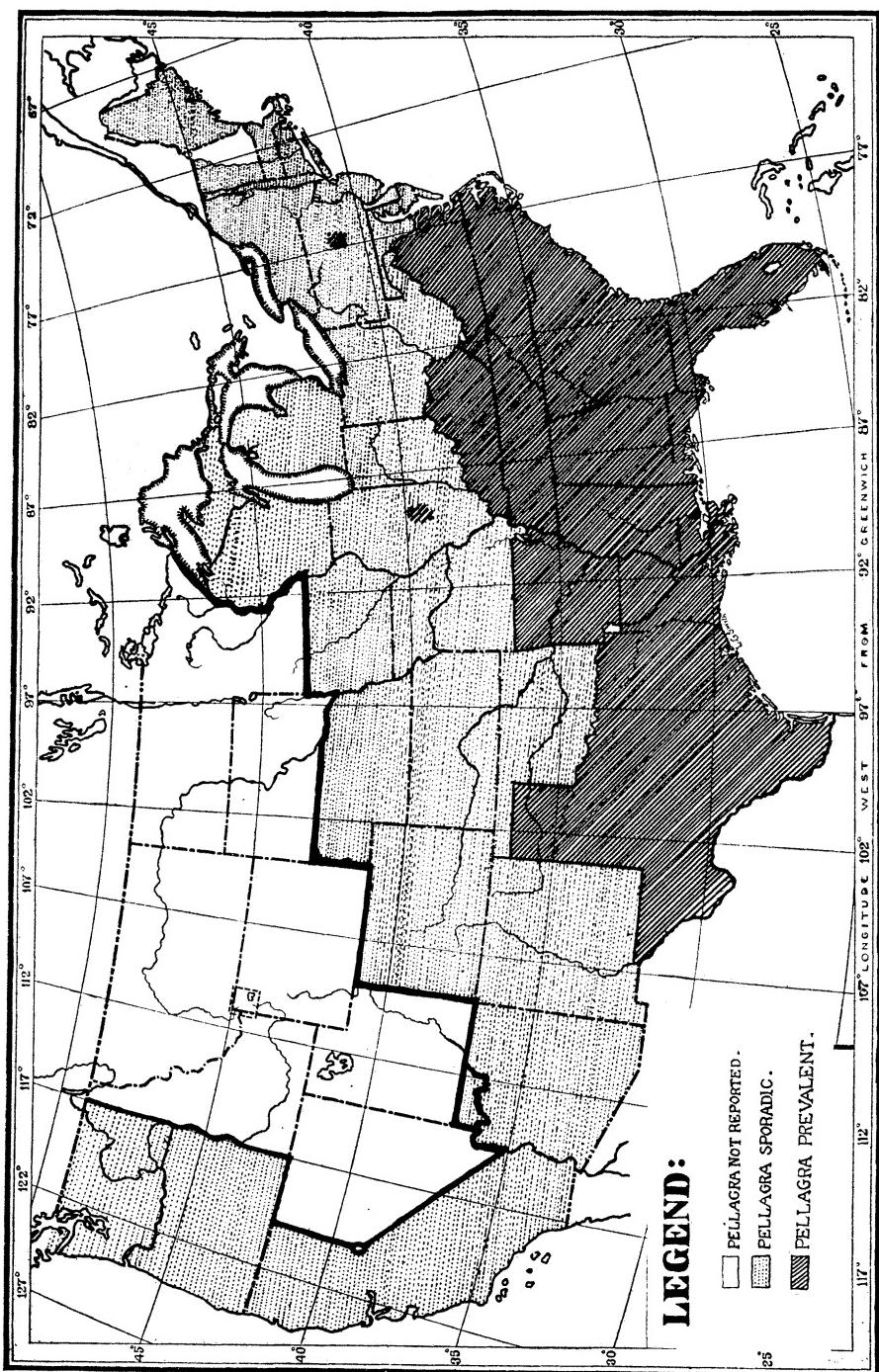
In Table No. 2, I have tried to give an estimate of the total cases which have occurred in the United States during the calendar years 1907 to 1911, inclusive.

TABLE No. 2.—*Showing estimated total number of cases of pellagra in the United States, 1907 to 1911, inclusive.*

Eight States:

Reported.....	15,870
Not reported (estimated).....	4,000
Maryland.....	25
Tennessee.....	2,500
Florida.....	250
Arkansas.....	500
Texas.....	1,500
Illinois and Pennsylvania.....	700
All other States.....	200
 Total.....	 25,545

December 13, 1912



This table is not based on actual figures throughout, but has been compiled from all the data available, and while doubtless containing errors, it is nevertheless, in my opinion, a very conservative statement. If we presume, as I think we safely may, that the disease is still increasing during the present year, then with this total of 25,545 cases up to the end of 1911 we may certainly say that up to the present time there have occurred a total of not less than 30,000 cases of pellagra in the United States since the recognition of this disease as endemic and prevalent in this country. Indeed, I think we might very safely increase this total and still remain well within the limits of truth.

In the large map of the United States I have tried to show in a general way the distribution of pellagra in the United States. Such a map can give only a general idea of the prevalence of the disease, but it serves to show and emphasize this very well. It is to be noted that there are nine States which have not as yet reported the disease. These are New Hampshire in the New England States, and all the others are grouped together in the North and West: Idaho, Minnesota, Montana, North and South Dakota, Utah, Wyoming and Nevada.

The following table, No. 3, which shows the number of cases reported in each county in the States for which detailed information was obtained, will serve in some measure to show the distribution of the disease in these eight States. These data were compiled some time ago, and do not include a few cases reported since. The totals therefrom will be somewhat less than the totals given in Tables 1 and 2.

TABLE NO. 3.—*Showing by counties the number of cases of pellagra reported in Alabama, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Virginia.*

Counties.	Cases.	Counties.	Cases.
ALABAMA.			
Autauga.....	4	Houston.....	18
Baldwin.....	17	Jackson.....	28
Barbour.....	41	Jefferson.....	225
Bibb.....	50	Lamar.....	24
Blount.....	39	Lauderdale.....	13
Bullock.....	26	Lawrence.....	28
Butler.....	36	Lee.....	31
Calhoun.....	63	Limestone.....	5
Chambers.....	12	Lowndes.....	28
Cherokee.....	3	Macon.....	33
Chilton.....	43	Madison.....	6
Choctaw.....	34	Marengo.....	61
Clarke.....	155	Marion.....	15
Clay.....	12	Marshall.....	70
Cleburne.....	7	Mobile.....	41
Coffee.....	0	Monroe.....	10
Colbert.....	13	Montgomery.....	126
Conecuh.....	3	Morgan.....	68
Coosa.....	17	Perry.....	23
Covington.....	11	Pickens.....	37
Crenshaw.....	9	Pike.....	47
Cullman.....	27	Randolph.....	39
Dale.....	21	Russell.....	31
Dallas.....	80	Shelby.....	21
Dekalb.....	23	St. Clair.....	15
Elmore.....	25	Sumter.....	40
Escambia.....	12	Talladega.....	62
Etowah.....	79	Tallapoosa.....	9
Fayette.....	12	Tuscaloosa.....	61
Franklin.....	8	Walker.....	63
Geneva.....	13	Washington.....	29
Greene.....	23	Wilcox.....	92
Hale.....	30	Winston.....	12
Henry.....	0		

December 13, 1912

TABLE NO. 3.—*Showing by counties the number of cases of pellagra reported in Alabama, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Virginia—Continued.*

Counties.	Cases.	Counties.	Cases.	
GEORGIA.			GEORGIA—continued.	
Appling.....	3	Macon.....	14	
Baker.....	1	Madison.....	5	
Baldwin.....	25	Marion.....	9	
Banks.....	14	Meriwether.....	51	
Bartow.....	91	Miller.....	4	
Ben Hill.....	48	Milton.....	14	
Berrien.....	14	Mitchell.....	0	
Bibb.....	104	Monroe.....	39	
Brooks.....	15	Montgomery.....	18	
Bryan.....	4	Morgan.....	16	
Bulloch.....	4	Murray.....	4	
Burke.....	6	Muscogee.....	105	
Calhoun.....	11	Newton.....	33	
Camden.....	16	Oconee.....	9	
Campbell.....	29	Oglethorpe.....	1	
Carroll.....	47	Paulding.....	20	
Catoosa.....	0	Pickens.....	31	
Chatham.....	61	Pierce.....	5	
Chattooga.....	5	Pike.....	19	
Cherokee.....	25	Polk.....	87	
Clarke.....	66	Pulaski.....	15	
Clay.....	4	Putnam.....	9	
Clayton.....	72	Quitman.....	36	
Clinch.....	3	Rabun.....	4	
Cobb.....	113	Randolph.....	35	
Coffee.....	29	Richmond.....	104	
Colquitt.....	41	Rockdale.....	23	
Columbia.....	9	Sc生生ren.....	6	
Coweta.....	78	Spalding.....	93	
Crawford.....	8	Stephens.....	55	
Crisp.....	21	Stewart.....	13	
Decatur.....	8	Sumter.....	25	
Dekalb.....	126	Talbot.....	10	
Dodge.....	6	Taliaferro.....	19	
Dooly.....	6	Tattnall.....	0	
Dougherty.....	22	Telfair.....	6	
Douglas.....	24	Terrell.....	54	
Early.....	2	Thomas.....	22	
Echols.....	0	Tift.....	7	
Effingham.....	12	Toombs.....	28	
Elbert.....	21	Troup.....	68	
Emanuel.....	6	Turner.....	0	
Fannin.....	7	Twiggs.....	1	
Fayette.....	10	Union.....	5	
Floyd.....	145	Walker.....	60	
Forsyth.....	9	Walton.....	7	
Franklin.....	33	Ware.....	53	
Fulton.....	862	Warren.....	22	
Gilmer.....	0	Washington.....	24	
Glascock.....	4	Wayne.....	9	
Glynn.....	4	Webster.....	4	
Gordon.....	45	White.....	6	
Grady.....	8	Whitfield.....	109	
Greene.....	37	Wilcox.....	25	
Gwinnett.....	111	Wilkes.....	9	
Habersham.....	99	Wilkinson.....	4	
Hall.....	95	Worth.....	16	
Hancock.....	2	KENTUCKY.		
Haralson.....	11	Adair.....	0	
Harris.....	9	Allen.....	2	
Hart.....	21	Anderson.....	0	
Heard.....	30	Ballard.....	0	
Henry.....	59	Barren.....	1	
Houston.....	19	Bath.....	1	
Irwin.....	3	Bell.....	47	
Jackson.....	104	Boone.....	0	
Jasper.....	9	Bourbon.....	1	
Jeff Davis.....	10	Boyd.....	1	
Jefferson.....	14	Boyle.....	2	
Jenkins.....	3	Bracken.....	0	
Jones.....	8	Breathitt.....	4	
Laurens.....	16	Breckenridge.....	0	
Lee.....	8	Bullitt.....	0	
Liberty.....	2	Butler.....	0	
Lincoln.....	7	Caldwell.....	0	
Lowndes.....	21	Calloway.....	5	
McDuffie.....	3			
McIntosh.....	2			

TABLE No. 3.—Showing by counties the number of cases of pellagra reported in Alabama, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Virginia—Continued.

Counties.	Cases.	Counties.	Cases.
GEORGIA—continued.			
Campbell.....	1	Scott.....	0
Carroll.....	1	Shelby.....	0
Carter.....	18	Simpson.....	0
Casey.....	1	Spencer.....	0
Christian.....	0	Taylor.....	5
Clark.....	1	Todd.....	5
Clay.....	2	Trigg.....	0
Clinton.....	0	Trimble.....	0
Crittenden.....	0	Union.....	3
Cumberland.....	0	Warren.....	5
Daviss.....	2	Washington.....	3
Elliott.....	0	Wayne.....	2
Estill.....	0	Webster.....	1
Fayette.....	57	Whitley.....	39
Fleming.....	1	Woodford.....	1
Floyd.....	0	LOUISIANA.	
Fulton.....	0	Acadia.....	4
Gallatin.....	0	Ascension.....	7
Garrard.....	12	Assumption.....	4
Grant.....	0	Avoyelles.....	4
Graves.....	1	Bienvenue.....	4
Grayson.....	2	Bossier.....	9
Green.....	0	Caddo.....	46
Greenup.....	0	Calcasieu.....	30
Hancock.....	0	Caldwell.....	2
Hardin.....	0	Catahoula.....	5
Harlan.....	0	Claiborne.....	23
Harrison.....	0	Concordia.....	5
Hart.....	6	De Soto.....	34
Henderson.....	0	East Baton Rouge.....	27
Henry.....	0	East Carroll.....	15
Hickman.....	0	East Feliciana.....	12
Hopkins.....	4	Franklin.....	4
Jackson.....	0	Grant.....	14
Jefferson.....	97	Iberia.....	6
Jessamine.....	2	Ibererville.....	7
Johnson.....	1	Jackson.....	31
Kenton.....	0	Jefferson.....	0
Knox.....	52	Lafayette.....	1
Larue.....	0	Lafourche.....	4
Laurel.....	19	La Salle.....	4
Lawrence.....	1	Lincoln.....	10
Lee.....	0	Livingston.....	2
Letcher.....	2	Madison.....	1
Lewis.....	0	Morehouse.....	4
Lincoln.....	1	Natchitoches.....	14
Livingston.....	0	Orleans.....	62
Logan.....	0	Ouachita.....	12
Lyon.....	3	Plaquemines.....	1
McCracken.....	6	Pointe Coupee.....	2
McLean.....	2	Rapides.....	11
Madison.....	1	Red River.....	0
Magooffin.....	0	Richland.....	2
Marion.....	0	Sabine.....	5
Marshall.....	1	St. Bernard.....	0
Martin.....	14	St. Charles.....	1
Mason.....	0	St. Helena.....	6
Meade.....	0	St. James.....	1
Menifee.....	0	St. Landry.....	7
Mercer.....	0	St. Martin.....	3
Metcalfe.....	0	St. Mary.....	18
Monroe.....	2	St. Tammany.....	7
Montgomery.....	0	Tangipahoa.....	52
Morgan.....	0	Tensas.....	9
Muhlenberg.....	8	Terrebonne.....	2
Nelson.....	32	Union.....	6
Nicholas.....	0	Vermilion.....	3
Ohio.....	2	Vernon.....	11
Oldham.....	0	Washington.....	11
Owen.....	0	Webster.....	19
Owsley.....	0	West Baton Rouge.....	3
Pendleton.....	0	West Feliciana.....	0
Perry.....	0	Winn.....	56
Pike.....	2	MISSISSIPPI.	
Powell.....	3	Adams.....	83
Pulaski.....	1	Alcorn.....	29
Robertson.....	0		
Rockcastle.....	2		
Rowan.....	0		
Russell.....	1		

TABLE NO. 3.—*Showing by counties the number of cases of pellagra reported in Alabama, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Virginia—Continued.*

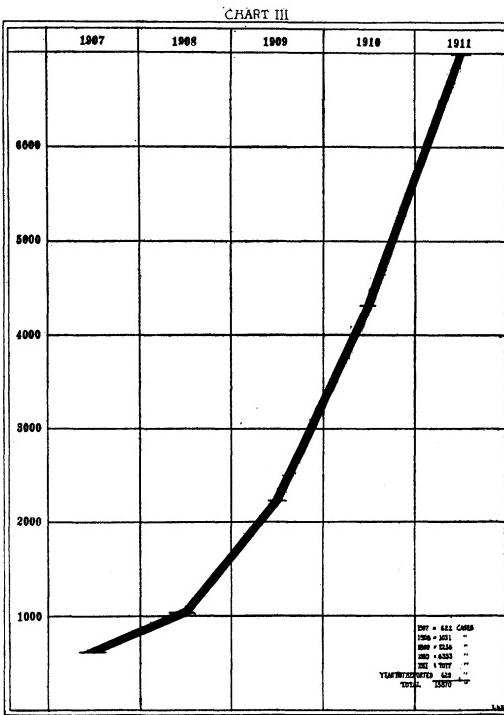
Counties.	Cases.	Counties.	Cases.
MISSISSIPPI—continued.			
Amite.....	55	Avery.....	11
Attila.....	27	Beaufort.....	27
Benton.....	0	Bladen.....	3
Bolivar.....	71	Buncombe.....	173
Calhoun.....	10	Burke.....	26
Carroll.....	9	Cabarrus.....	4
Chickasaw.....	95	Caldwell.....	6
Choctaw.....	27	Camden.....	0
Clalborne.....	3	Carteret.....	5
Clarke.....	26	Caswell.....	1
Clay.....	35	Catawba.....	16
Coahoma.....	77	Chatam.....	27
Copiah.....	10	Cherokee.....	20
Covington.....	59	Chowan.....	5
De Soto.....	76	Cleveland.....	15
Forrest.....	39	Columbus.....	12
Franklin.....	3	Craven.....	39
George.....	3	Cumberland.....	180
Greene.....	2	Currituck.....	2
Hancock.....	0	Dare.....	0
Harrison.....	87	Davidson.....	5
Hinds.....	114	Davie.....	9
Holmes.....	54	Duplin.....	2
Issaquena.....	0	Durham.....	253
Ittawamba.....	14	Edgecombe.....	4
Jackson.....	1	Forsythe.....	39
Jasper.....	42	Franklin.....	80
Jefferson.....	8	Gaston.....	20
Jefferson Davis.....	0	Gates.....	0
Jones.....	15	Granville.....	17
Kemper.....	28	Greene.....	8
Lafayette.....	26	Guildford.....	207
Lamar.....	7	Halifax.....	11
Lauderdale.....	307	Harnett.....	30
Lawrence.....	64	Haywood.....	25
Leake.....	4	Henderson.....	21
Lee.....	105	Hertford.....	2
Leflore.....	45	Hoke.....	0
Lincoln.....	14	Iredell.....	5
Lowndes.....	33	Jackson.....	13
Madison.....	9	Johnston.....	34
Marion.....	9	Jones.....	2
Marshall.....	23	Lee.....	8
Monroe.....	177	Lenoir.....	7
Montgomery.....	37	Lincoln.....	21
Neshoba.....	36	McDowell.....	27
Newton.....	8	Macon.....	4
Noxubee.....	12	Madison.....	2
Oktibben.....	45	Martin.....	0
Panola.....	53	Mecklenburg.....	156
Pearl River.....	12	Mitchell.....	0
Perry.....	11	Montgomery.....	3
Pike.....	84	Moore.....	28
Quitman.....	4	Nash.....	6
Rankin.....	57	New Hanover.....	21
Scott.....	13	Northampton.....	2
Sharkey.....	17	Onslow.....	8
Simpson.....	30	Orange.....	18
Smith.....	2	Pamlico.....	2
Sunflower.....	56	Pasquotank.....	8
Tallahatchie.....	23	Pender.....	45
Tate.....	31	Person.....	5
Tippah.....	14	Pitt.....	33
Tishomingo.....	12	Polk.....	14
Tunica.....	26	Randolph.....	44
Union.....	37	Richmond.....	25
Warren.....	0	Robeson.....	104
Washington.....	126	Rockingham.....	35
Wayne.....	4	Rowan.....	62
Webster.....	8	Rutherford.....	32
Wilkinson.....	18	Sampson.....	9
Winston.....	32	Scotland.....	3
Yalobusha.....	29	Stanly.....	1
Yazoo.....	38	Stokes.....	6
		Surry.....	15
		Swain.....	0
		Transylvania.....	0
Alamance.....	26	Tyrrell.....	2
Alexander.....	2	Union.....	24
Anson.....	67	Vance.....	22
Ashe.....	0	Wake.....	77

NORTH CAROLINA.

TABLE NO. 3.—Showing by counties the number of cases of pellagra reported in Alabama, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Virginia—Continued.

Counties.	Cases.	Counties.	Cases.
NORTH CAROLINA—continued.			
Warren.....	27	Chesterfield.....	3
Washington.....	2	Clarke.....	0
Watauga.....	0	Culpeper.....	2
Wayne.....	18	Cumberland.....	2
Wilkes.....	5	Dickenson.....	0
Wilson.....	2	Dinwiddie.....	8
Yadkin.....	0	Essex.....	0
Yancey.....	1	Fairfax.....	3
SOUTH CAROLINA.			
Abbeville.....	17	Fauquier.....	13
Aiken.....	106	Floyd.....	2
Anderson.....	131	Fluvanna.....	1
Bamberg.....	10	Franklin.....	0
Barnwell.....	6	Frederick.....	0
Beaufort.....	39	Giles.....	1
Berkeley.....	22	Gloucester.....	0
Calhoun.....	2	Goochland.....	2
Charleston.....	73	Grayson.....	1
Cherokee.....	33	Greene.....	0
Chester.....	26	Greeneville.....	21
Chesterfield.....	7	Hanover.....	16
Clarendon.....	8	Henrico.....	10
Colleton.....	5	Henry.....	79
Darlington.....	19	Highland.....	12
Dillon.....	33	Isle of Wight.....	0
Dorchester.....	9	James City.....	11
Edgefield.....	22	King and Queen.....	22
Fairfield.....	57	King William.....	0
Florence.....	18	Lancaster.....	1
Georgetown.....	16	Lee.....	0
Greenville.....	145	Loudoun.....	7
Greenwood.....	98	Louisa.....	2
Hampton.....	8	Lunenburg.....	4
Horry.....	23	Madison.....	2
Kershaw.....	16	Mecklenburg.....	12
Lancaster.....	18	Middlesex.....	1
Laurens.....	95	Montgomery.....	13
Lee.....	10	Nansemond.....	2
Lexington.....	7	Nelson.....	4
Marion.....	11	Norfolk.....	64
Marlboro.....	21	Northampton.....	2
Newberry.....	35	Northumberland.....	2
Oconee.....	80	Nottoway.....	13
Orangegburg.....	53	Orange.....	3
Pickens.....	93	Page.....	0
Richland.....	51	Patrick.....	1
Saluda.....	11	Pittsylvania.....	39
Spartanburg.....	226	Powhatan.....	3
Sumter.....	37	Prince Edward.....	0
Union.....	92	Prince George.....	4
Williamsburg.....	12	Princess Anne.....	5
York.....	25	Prince William.....	6
VIRGINIA.			
Accomac.....	9	Pulaski.....	2
Albemarle.....	10	Rappahannock.....	0
Alexandria.....	1	Richmond.....	2
Alleghany.....	1	Roanoke.....	31
Amelia.....	1	Rockbridge.....	3
Amherst.....	7	Rockingham.....	6
Augusta.....	17	Russell.....	0
Bath.....	0	Scott.....	2
Bedford.....	11	Shenandoah.....	2
Bland.....	0	Smyth.....	8
Botetourt.....	2	Southampton.....	12
Brunswick.....	4	Spotsylvania.....	1
Buchanan.....	1	Stafford.....	12
Buckingham.....	1	Surry.....	0
Campbell.....	33	Sussex.....	10
Caroline.....	0	Tazewell.....	5
Carroll.....	0	Warren.....	1
Charles City.....	3	Warwick.....	4
Charlotte.....	5	Washington.....	4
		Westmoreland.....	3
		Wise.....	1
		Wythe.....	2
		York.....	2

Here, again, we are likely to receive wrong impressions unless Table No. 3 is studied with the conditions and circumstances well in mind. For example, it will be noticed in Georgia that Fulton County shows a large number of cases; but Atlanta is located in this county and a great many cases of the disease are sent into Atlanta for treatment. This probably accounts for many of the cases attributed to this county. A similar state of affairs is true for other places. Again, in South Carolina, Spartanburg County reports a large number of cases. This is due, partially at least, to the fact that the profession in this county have taken a marked interest in the disease. They are therefore good diagnosticians and also make reports. A similar



condition of affairs will be found in other places in these States. So that the geographical distribution as shown by this table can be accepted only in a general way.

The next chart, Chart No. 3, shows the increase in cases, by years, as reported from the eight States mentioned. The interpretation of this chart is also not without difficulty, and it is impossible to say just how much this rapid increase may be due to the spread of knowledge regarding the disease and increased skill in diagnosis among the profession. From my observation and experience I have no doubt that such factors may account for some of it, but I am equally convinced that it represents in large measure an actual increase in cases. I have collected figures only up to and including 1911, and so can not say what may have happened during the present year of 1912; but so far as I can learn the disease is still spreading and increasing in numbers in practically all parts of the involved territory.

In concluding this paper I may say that no one can feel more dissatisfaction than myself concerning the want of greater accuracy in the figures presented. I feel justified, however, in presenting as I have the results of my inquiry since there exists no hope of our soon obtaining anything better. And whatever else may be charged against such a report I do not think any person at all conversant with the situation can say that I have in any manner exaggerated the existing condition of things. On the contrary, I feel sure that where I have erred it has been in statements too temperate rather than otherwise. I may point out here also, as has been done by Surg. Gen. Blue elsewhere, that, strictly speaking, it is not the proper function of the Public Health Service to collect these data, and in so doing we have, perforce, gathered information which under proper conditions could have been supplied with greater ease and accuracy by the State health authorities. It is greatly to be hoped that this disease may be made reportable in the various States and the way opened for the collection of extensive and accurate data on the prevalence of such an important malady.

Numerically pellagra can not, of course, be compared with such a disease as typhoid fever, for example; but when consideration is given to the facts that a disease which was unknown to us some five to six years ago has within this brief period claimed not less than 30,000 victims with a case fatality rate in excess of 39 per cent, and which apparently is continuing its spread over wider territory with a constant increase in the numbers involved, then, I think, it may be safely said that this matter has reached the dignity of a public-health question of national importance.¹

¹ In the preparation of this paper I am especially indebted to Pharmacist L. G. Smith, Public Health Service, who has collected most of the data and has prepared a large part of the tables, charts, and maps.